

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today  
(1) was not written for publication in a law journal and  
(2) is not binding precedent of the Board.

Paper No. 12

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte BEHZAD SHAHRARAY

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Appeal No. 96-0649  
Application 08/191,234<sup>1</sup>

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ON BRIEF

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Before THOMAS, HAIRSTON, and LEE, Administrative Patent  
Judges.

THOMAS, Administrative Patent Judge.

DECISION ON APPEAL

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<sup>1</sup> Application for patent filed February 4, 1994.

Appeal No. 96-0649  
Application 08/191,234

Appellant has appealed to the Board from the examiner's final rejection of claims 1, 7 and 18, which constitute all the claims remaining in the application.

Representative claim 18 is reproduced below:

18. A method of determining camera-induced scene changes in a sequence of visual information-bearing frames constituting a single shot, said method comprising the steps of:

(a) generating a signal representing camera-induced motion between each of a plurality of pairs of frames within a single camera shot;

(b) summing a plurality of the signals for a plurality of pairs of frames to form a first cumulative signal; and

(c) generating an indicator signal that indicates a scene change when the first cumulative signal meets a certain decision criterion.

The following references are relied on by the examiner:

Gove	5,099,322	Mar. 24,
1992		
Miyatake et al. (Miyatake)	5,267,034	Nov. 30, 1993

Claims 1, 7 and 18 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner relies upon Gove in view of Miyatake.

Rather than repeat the positions of the appellant and the examiner, reference is made to the brief and the answer for the respective details thereof.

#### OPINION

For all the reasons expressed by the examiner in the answer, and for the additional reasons presented here, we will sustain the prior art rejection of claims 1, 7 and 18 under 35 U.S.C.

§ 103. Inasmuch as we are in agreement with the well-reasoned positions and legal-factual analysis of the teachings of the references done by the examiner, we will not for the sake of brevity repeat that which has clearly been set forth in the answer. To round-out the examiner's detailed analysis of the claimed invention and appellant's arguments, we add the following.

Beginning in the background invention discussion of Gove at column 1, lines 49 through 58, camera motion was a known factor in determining scene changes in a sequence of images. Indeed, this portion of Gove introduces the concept that at

least with respect to a pixel-to-pixel difference of two successive images, such may be followed by a threshold operation to yield a motion gradient. At column 2, lines 34 through 37, Gove indicates that when scenes involve camera motion his system may use more complicated algorithms in which objects are detected and tracked in the scene. Columns 3 and 4 discuss certain design criteria that may exist in the design of an overall scene change detection system as expressed in the title of Gove's patent as to whether they will or will not be included in the final overall system. Of these, the existence of a camera motion sense ability is one the design criteria options discussed.

The teachings of Gove are much more significant than even the examiner appears to realize. The discussion beginning at column 4, line 48 indicates that as a part of determining motion, the spatio-temporal analysis capability as known in the art included the capability of the summation of pixel values in a detection zone. This is discussed in greater detail at column 5 as recognized by the examiner. Thus, the determination of such a motion gradient, as we indicated was

known in the art from Gove's discussion at column 1 and being based upon a threshold, in Gove alone comports with the notion of generating an indicator signal when the cumulative signal arrived at "meets a certain decision criterion or threshold."

The discussion with respect to the decision module 80 beginning at column 6, line 15, indicates that a more complex system may include a determination whether the camera is not stationary. In discussing this portion of Gove, appellant remarks at the bottom of page 5 of the brief that "the '322 reference recognizes that the presence of camera motion may be something that effects the determination of a scene change." We do not regard the teachings so isolated by us in this decision and all of those recognized by the examiner and noted in the answer as teaching that a camera motion characteristic is irrelevant or unimportant or ambiguous. Having said this, we do not understand appellant's assertion at the bottom of page 6 and the top of page 7 of the brief that Gove fails to show or suggest the use of camera motion as a criterion for detecting scene changes.

We agree with the basic position set forth by the examiner in which the examiner clearly shows that Gove is not concerned with the details of camera motion sensing but does indicate clearly that camera motion is a factor to be determined in scene change determinations as set forth in Gove's own title. The details of camera induced motion sensing are provided by Miyatake. The focus of Gove's teachings is upon scene change detection systems in which the scene changes within the video images per se. Appellant's additional assertion at the top of page 7 of the brief that Gove does not show or suggest the use of cumulative values of camera motion for any purpose whatsoever is consistent with the examiner's position of the statement in the rejection and analysis in the answer, since the examiner relies upon Miyatake and not Gove for the teaching value of cumulative determinations for any factors affecting camera motion.

Finally, appellant asserts at page 7 of the brief:

In regard to the '034 reference, this reference simply discloses one example of a method for determining motion parameters that may be used by the present invention. In fact, Appellant discloses on page 17, line 21 - page 18, line 17 a number of other similar methods that may be used. Appellant

makes no representation that the present invention discloses a new method of determining motion parameters. Appellant's invention lies in the realization that the cumulative value of such motion parameters over a series of frames may be used as a criterion to detect scene changes.

In the same manner that we have indicated earlier that Gove indicates that it was known in the art to him to establish threshold values and perform certain signal summations to determine scene changes generally, Miyatake's teachings, as argued by the examiner, clearly indicate that cumulative values of motion parameters may be utilized to determine scene changes over a series of frames of images as measured against a variable threshold value. Miyatake's discussion characterizes "camera works" as zooming and panning motions in the context of his disclosure. Therefore, not only do we find ourselves in agreement with the examiner's basic reasoning process in combining the teaching value of both references relied upon, it appears, from the above quoted portion, that appellant is in general agreement with this assessment.

In view of the forgoing, the decision of the examiner rejecting claims 1, 7 and 18 under 35 U.S.C. § 103 is affirmed.

Appeal No. 96-0649  
Application 08/191,234

No time period for taking any subsequent action in  
connection with this appeal may be extended under 37 CFR  
§ 1.136(a).

AFFIRMED

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JAMES D. THOMAS	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
KENNETH W. HAIRSTON	)	)
Administrative Patent Judge	)	APPEALS AND
	)	
	)	INTERFERENCES
	)	
JAMESON LEE	)	
Administrative Patent Judge	)	

SMD



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Application 08/191,234

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S.H. Dworetsky  
AT&T Bell Laboratories  
600 Mountain Avenue  
P.O. Box 636  
Murray Hill, NJ 07974-0636